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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,959	12/29/2000	Ludwig Hofmann	GR 98 P 1974 P	8500

7590 07/18/2003

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EXAMINER

IQBAL, KHAWAR

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 07/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

5155741

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Office Action Summary

Application No.

09/751,959

Applicant(s)

HOFMANN, LUDWIG

Examiner

Khawar Iqbal

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4,7,8 and 10 are rejected under 35 U.S.C. 102(b) as being unpatentable by Papadakis et al (5461921).

Regarding claim 1 Papadakis et al teaches a method for transmitting data between a head part and a base part of a hands-free telephone, which comprises (abstract, fig. 6):

digitizing information to be transmitted (figs. 1,6, element 26) (col. 9, lines 24-27);

spreading the digitized information over a wider frequency band using a CDMA technique (col.9, lines 24-27);

performing a digital to analog (304) conversion on the spread digitized information (col. 9, lines 27-30);

converting the digital to analog converted (304) spread information into an ultrasound signal (col. 9, lines 31-35); and

transmitting the ultrasound signal via an air interface (26) (col. 9, lines 31-35).

Regarding claims 2 and 8 Papadakis et al teaches before digitizing the information to be transmitted, compressing the information to be transmitted using compression coding (col. 9, line 25-35).

Regarding claims 4 and 10 Papadakis et al teaches at a receiver component (fig. 1,6), receiving (30) the transmitted ultrasound signal and converting the received ultrasonic signal into an analog electrical signal (306); performing an analog to digital conversion on the analog electrical signal (42); despreding the analog to digital converted signal using a CDMA technique (col. 9, lines 35-55).

Regarding claim 7 Papadakis et al teaches a hands-free telephone comprising an ultrasonic transmission system including (abstract, figs. 1,6):

a CDMA spreader for spreading digital information to a number of carrier frequencies using a CDMA technique (col. 9, 24-45);

a digital to analog converter for digital to analog converting the spread information (col. 9, 24-35); and

an ultrasonic transducer for converting the digital to analog converted spread information into an ultrasound signal and for transmitting the ultrasound signal over an air interface (col. 9, 24-35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Waters et al (5155741).

Regarding claims 3 and 9 Papadakis et al does not specifically teach which comprises reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding. The decoder preferably further comprises a converter for converting the analog voice message to digitized voice words, and a memory for storing the digitized voice words. A controller is also preferably provided for controlling the circular shift register in response to the stored digitized voice words.

In an analogous art, Waters et al teaches which comprises reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding. (figs. 2, col. 9, lines 24-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding a 1-10 kbit/s when performing the compression coding for the purpose of increasing the efficiency of the coding system taught by Waters et al.

Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Scott (6522642).

Regarding claim 6 Papadakis et al does not specifically teach information is spread to $\pm 100\text{kHz}$.

In an analogous art, Scott teaches information is spread to $\pm 100\text{kHz}$ (col. 2, lines 30-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding a information is spread to $\pm 100\text{kHz}$ for the purpose of increasing the efficiency of the system taught by Scott.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Nakamura (4591811).

6. Regarding claim 5 Papadakis et al does not specifically teach wherein in performing the step of transmitting the ultrasound signal, the ultrasound signal is transmitted at a frequency between 200 and 400 kHz.

In an analogous art, Nakamura teaches the ultrasound signal is transmitted at a frequency between 200 and 400 kHz. (col. 1, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding a the ultrasound signal is transmitted at a frequency between 200 and 400 kHz for the purpose of increasing the efficiency of the system taught by Nakamura.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yang et al (6331974), Kivela et al (6272359), Koenck et al (6006100), Kita (5960367), and Anderson (5721783) teach transmitting and receiving ultrasound signal.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal



Marsha D Banks-Harold
MARSHA D. BANKS-HAROLD
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